

## Ellsworth Sharpening Jig

Recommended for use with 1/2" and 5/8" diameter bowl gouges with parabolic shaped flutes only.

When using this jig with the Wolverine sliding arm, change the 2", 4", 7" measurements listed below to: 2 1/8", 5 1/4", 7 1/8" respectively.

### Setting up the Slide:

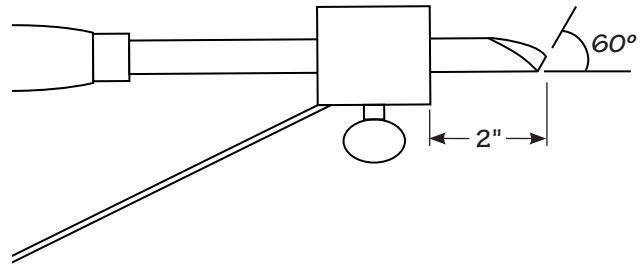
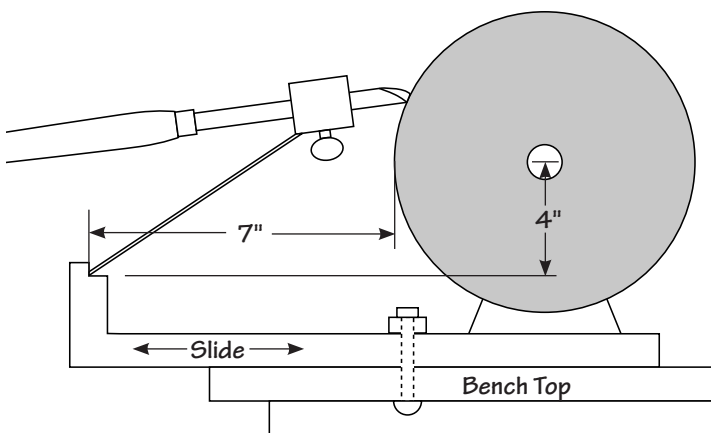
1. Cut a 'slide' from any board; 3/4" thick, 2" wide and about 15" long. Cut a slot approximately 7/16" diameter to clear the 3/8" diameter carriage bolt. Cut notch in 'basket' to receive tip of the jig's aluminum leg.
2. Position the slide on the bench so that it is parallel to the plane of the wheel and directly below it. Secure temporarily with a C-clamp.
3. The pivot point of basket must be 4" below the center hole in the wheel. Notes: Remove wheel cover. 6" grinders may have to be blocked up slightly to achieve this 4" distance.
4. Drill 3/8" diameter hole through bench top to receive 3/8" diameter carriage bolt. Be sure this hole is the center line of the wheel, not off to one side. (Grinder may have to be moved to drill this hole).
5. Adjust slide so the basket is 7" from face of wheel. Tighten carriage screw; remove C-clamp.

*NOTE:* Re-check measurements for location of pivot point in 'basket': Should be 4" below center hole in wheel and 7" from front face of wheel. As wheel wears down, adjust arm to maintain 7" distance from wheel face. Sliding arm can be made of any material. Metal arms from other sharpening systems are ideal, but may need to be modified to achieve the 4" measurement described above.

### Using the Jig

Before you begin, turn the grinder "OFF".

1. Slip gouge into jig, flute pointing up, so that the tip protrudes 2" from front face of the jig. Tighten set screw. *Suggestion: Drill a 3/4" diameter hole, 2" deep into front edge of bench top for future reference.*
2. Position tip of jig's aluminum leg into pivot point of basket. With grinder turned "off", sweep the gouge a full 90 degrees left and right to ensure tip of the leg does not slip out of pivot point. Adjust notch if necessary.
3. Replace wheel cover on grinder. Bolt grinder to bench top.



### Tips on Sharpening

"Don't grind the tool...dress the bevel."

1. Dress wheel frequently with a diamond dresser! Dark marks on wheel mean the surface is clogged and it can't do its job. Over-grinding on an un-dressed wheel will shorten the life of the tool 4-10 times!!!
2. Hold the jig with BOTH hands and practice the motion of sharpening the tool with the grinder turned off!!! Do NOT hold the jig with one hand and the handle of the gouge with the other, as this will cause over-grinding. The tool tip may also slide off the face of the wheel.
3. Save the life of the tool: Once the tip shape has been formed, you never have to go "grind" the tool again. Instead, "dress the bevel" with smooth, delicate sweeps of the tool on the wheel.
4. 100-grit, 6" or 8" diameter, pink or white aluminum oxide wheels recommended.

### Trouble Shooting

See drawings below for what the gouge tip should look like.

1. Do not over-grind the sides of the gouge's tip. This will cause the edge to 'drop' from a gentle convex arc into a straight or concave line that is less efficient when cutting. Solution: Spend more time sharpening the end of the tip.
2. Be careful not to develop high 'wings' to the left and right of the end of the tip. These will be sharper than the rest of the edge and will cause the gouge to grab or 'bite' the wood. Solution: Grind the wings down, then use less pressure against the wheel when sharpening the end of the tip.
3. Maintain 7" distance of pivot point to wheel as wheel wears down with use.
4. Always extend gouge's tip 2" from front face of jig: Further and the edge will become too sharp and difficult to control in the wood; less and the edge will not be sharp enough.

